

Two New Vitrinellid Species from the Gulf of California, Mexico (Gastropoda: Vitrinellidae)

by

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Abstract. *Cochliolepis cornis*, sp. nov., is described from San Felipe, Baja California, Mexico. This is the first report of the genus in the tropical eastern Pacific. It is compared with *C. parasitica* Stimpson, 1858, type of the genus, and *C. striata* Dall, 1889, both from the tropical western Atlantic. *Cyclostremiscus salvatierrensis*, sp. nov., is also described from the northern Gulf of California; it ranges south to Costa Rica. It is compared with the tropical eastern Pacific species *Cyclostremiscus nummus* and *Cyclostremiscus major*, both of Pilsbry & Olsson, 1952.

INTRODUCTION

MYERS *et al.* (1989) gave a preliminary list of the Vitrinellidae collected by Joyce Gemmell from 1965 to 1976 from San Felipe to San Luis Gonzaga in the northwestern Gulf of California, Mexico. In that report, 25 species were indicated, although five were not identified. Further study of this material has revealed that four of the species were new; two are described in this paper. The other two species have been described by MYERS *et al.* (1991). Other work on the Vitrinellidae from this collection was done by GEMMELL *et al.* (1989) and MYERS *et al.* (1990). Living specimens in this family are seldom collected, and nearly all species descriptions must necessarily be based on shell characters alone.

Institutional abbreviations are as follows: LACM, Los Angeles County Museum of Natural History; SBMNH, Santa Barbara Museum of Natural History; SDNHM, San Diego Natural History Museum; USNM, National Museum of Natural History, Smithsonian Institution.

VITRINELLIDAE Bush, 1897

Cochliolepis Stimpson, 1858

Type species: *C. parasitica* Stimpson, 1858, by original designation.

Cochliolepis cornis Hertz, Myers & Gemmell, sp. nov.

(Figures 1-4)

Description: Holotype 4.2 mm diameter, 1.4 mm altitude, thin, white, discoidal, flattened. Almost 2 protoconch whorls,

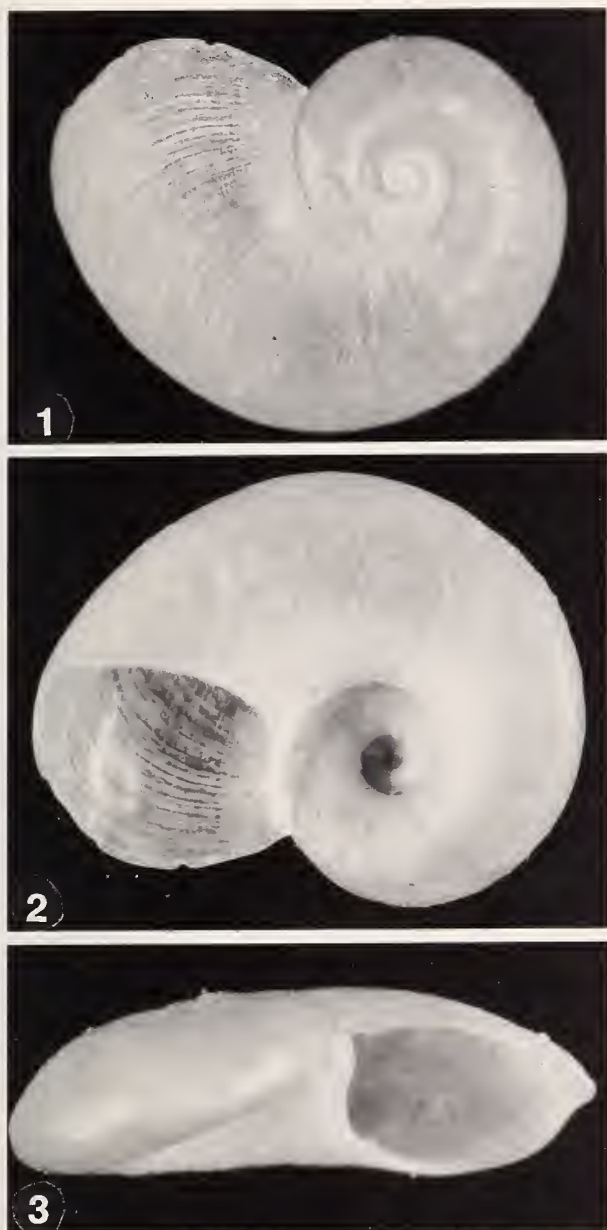
2½ teleoconch whorls. Spire low, projecting, tipped laterally from aperture. Suture well defined, excavated. Whorls rapidly increasing in diameter and coiled like a ram's horn. Umbilicus broadly open, narrowing to apex, revealing rounded surface of whorls. Aperture entire, asymmetric, with very faint sulcus posteriorly, slightly produced at periphery; inner lip reflected, appressed to previous whorl. Under magnification entire surface covered by closely spaced spiral threads with irregularly spaced fine axial growth lines.

Etymology: The name is Latin, "bearing horns," suggested by the ram's-horn coiling of the shell.

Type locality: Bahía San Felipe, Baja California, Mexico (31°03'N, 114°48'W), in drift.

Type material: 36 specimens from type locality, collected by Joyce Gemmell from 1965 to 1976. Holotype: SDNHM 93511. Paratypes: SDNHM 93512, 14 specimens; LACM 2576, 6 specimens; USNM, 8 specimens; SBMNH 35169, 8 specimens. One paratype, dredged by Joyce Gemmell on shrimpboat *Chamizal* on clay bottom in 25 m just south of Puertecitos, Baja California, Mexico (30°18'30"N, 114°37'24"W), 8-10 July 1969, retained in Hertz collection.

Discussion: We have placed this new species in the genus *Cochliolepis* based on the rapidly increasing diameter of the whorls, coiled like a ram's horn, and the umbilicus open to the apex (see GARDNER, 1948; ABBOTT, 1974). GARDNER (1948) redefined the genus *Cochliolepis* and emphasized the "ram's-horn coiling" and wide umbilical fun-



Explanation of Figures 1 to 3

Figures 1-3. *Cochliolepis cornis*, sp. nov. Holotype, SDNHM 93511. Diameter 4.2 mm, altitude 1.4 mm. Bahía San Felipe, Baja California, Mexico, in drift. Figure 1. Dorsal view. Figure 2. Basal view. Figure 3. Apertural view.

nel as diagnostic generic characters. This is the first report of the genus in the eastern Pacific.

Cochliolepis cornis resembles the type species, *C. parasitica*, in having rapidly expanding whorls and similar size, but *C. cornis* differs in having the surface covered by closely spaced spiral threads, whereas *C. parasitica* is smooth except for occasional strong growth lines. *Cochliolepis cor-*

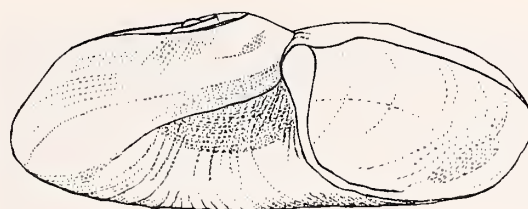


Figure 4

Cochliolepis cornis, sp. nov. Holotype. Camera lucida drawing showing laterally tipped spire and appressed inner lip.

nis has a projecting, tilted protoconch, whereas *C. parasitica* has a depressed protoconch surrounded by a thin, transparent shell layer that extends above the suture of the body whorl, forming what looks like a double suture.

Cochliolepis cornis also resembles *C. striata* Dall, 1889, in shape and its sculpture of closely spaced spiral cords. *Cochliolepis cornis* differs from *C. striata* in its smaller size (*C. striata* attains approximately 6.6 mm diameter) and in having a projecting, tilted protoconch. The protoconch of *C. striata* is partially covered by the succeeding whorl and the body whorl coils slightly above the periphery. In *C. cornis*, the body whorl terminates at the periphery. *Cochliolepis cornis* differs further in having a broadly open umbilicus instead of the constricted umbilicus of *C. striata*.

Cyclostremiscus Pilsbry & Olsson, 1945

Type species: *Vitrinella panamensis* C. B. Adams, 1852, by original designation.

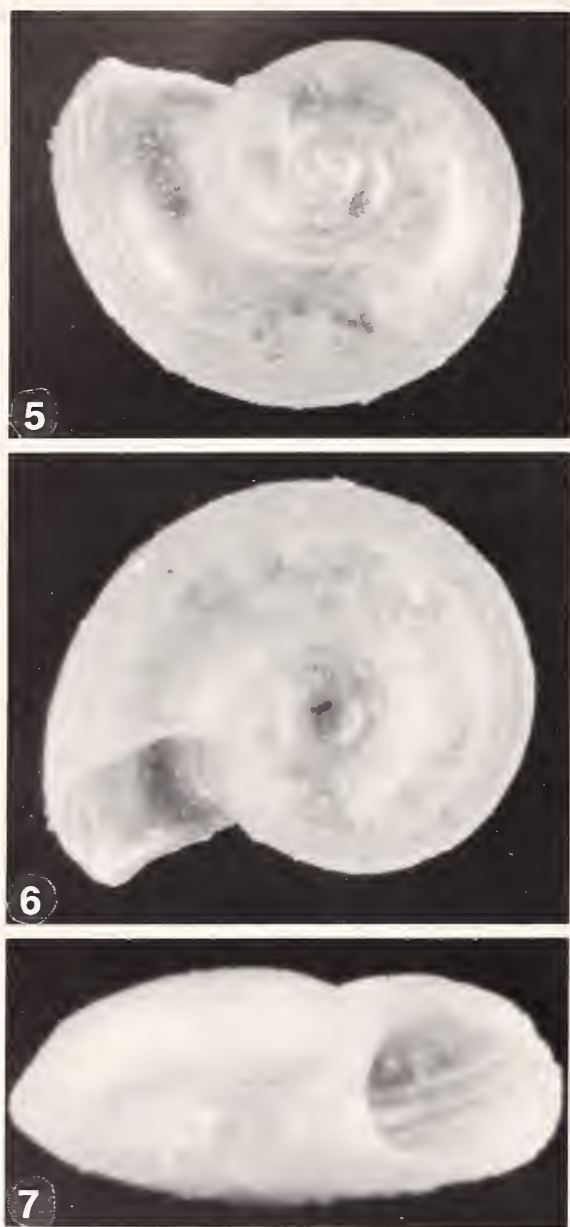
Cyclostremiscus salvatierrensis Hertz,
Myers & Gemmell sp. nov.

(Figures 5-8)

Description: Holotype 1 mm maximum diameter; protoconch of approximately $\frac{1}{2}$ whorl, slightly projecting; $2\frac{1}{4}$ glassy, somewhat flattened teleoconch whorls; suture deeply impressed. Aperture quadrate, with thick parietal callus extending beyond plane of peristome and containing a moderately prominent anal sulcus; lip edge raised and reflected dorsally, slightly produced at termination of first dorsal spiral cord. Body whorl with prominent peripheral cord and three strong, rounded spiral cords above; interspaces narrow; remainder of dorsum smooth. Base having two strong spiral cords, with narrow interspaces below and adjacent to periphery; remainder of base smooth, somewhat rounded, terminating in a moderately open funnel-shaped umbilicus. Axial sculpture lacking except for a few irregularly spaced growth lines.

Etymology: The name derives from Isla Salvatierra, the type locality.

Type locality: One km west of Isla Salvatierra (also known as Isla San Luis), Baja California, Gulf of California,



Explanation of Figures 5 to 7

Figures 5–7. *Cyclostremiscus salvatierrensis*, sp. nov. Holotype, SDNHM 93513. Diameter 1.0 mm, altitude 0.5 mm. West of Isla Salvatierra, Gulf of California, Mexico. Figure 5. Dorsal view. Figure 6. Basal view. Figure 7. Apertural view.

Mexico (29°57'48"N, 114°28'W), in sand with scallop valves in 25 m.

Type material: 2 specimens from type locality, collected by Joyce Gemmell on 8–10 July 1969. Holotype: SDNHM 93513; paratype: USNM, 1 specimen. Nine paratype lots in LACM as follows: LACM 2581 (ex LACM-AHF 237),

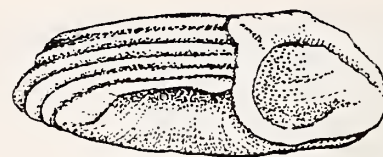


Figure 8

Cyclostremiscus salvatierrensis, sp. nov. Holotype. Camera lucida drawing showing the quadrated aperture with thick parietal callus.

1 specimen, Bahía Magdalena, Baja California Sur, Mexico (24°19'15"N, 110°37'30"W); LACM 2585 (ex LACM 66-28), 1 specimen, Bahía Partida, Baja California Sur, Mexico (24°25'N, 110°25'W); LACM 2578 (ex LACM 66-22), 1 specimen, Bahía Muertos, Baja California Sur, Mexico (24°55'N, 109°46'W), in 18–55 m; LACM 2583 (ex LACM 66-21), 3 specimens, off Punta Arena, Baja California Sur, Mexico (23°32'N, 109°28'W) in 18–36 m; LACM 2584 (ex LACM 71-22), 5 specimens, south of Punta Arena (2 km south of Los Tezos Ranch) (23°31'N, 109°W) in 9 m; LACM 2579 (ex LACM 66-19), 1 specimen, Bahía Pulmo, Baja California Sur, Mexico (23°22'N, 109°25'W) in 1–6 m; LACM 2580 (ex LACM 66-20), 1 specimen, south end of Bahía Pulmo, under boat anchorage (23°22'N, 109°25'W) in 6 m; LACM 2577 (ex LACM 68-45), 2 specimens, Bahía Cuastocomate, Jalisco, Mexico (19°13'45"N, 104°44'53"W) in 18–36 m; LACM 2582 (ex LACM-AHF 116-33), 1 broken specimen, south of Puerto Culebra, Costa Rica (10°33'35"N, 85°42'30"W) in 4 m.

Distribution: The new species is known from scattered records from Isla Salvatierra in the northern Gulf of California, Mexico, to Puerto Culebra, Costa Rica.

Discussion: *Cyclostremiscus salvatierrensis* is closest to the eastern Pacific species *C. nummus* and *C. major*, both of Pilsbry & Olsson, 1952. *Cyclostremiscus salvatierrensis* has a somewhat flattened shell with a prominent peripheral cord, whereas *C. nummus* has a tricarinate shape. *Cyclostremiscus salvatierrensis* differs from *C. nummus* in having three cords immediately above the periphery on the body whorl and two immediately below, with the remaining surface smooth, whereas *C. nummus* has spiral cords over the entire surface, three cords being stronger.

Cyclostremiscus salvatierrensis differs from *C. major* in its much smaller size, *C. major* attaining a diameter of 10.9 mm. *Cyclostremiscus salvatierrensis* has six spiral cords whereas *C. major* has spiral cords over the entire shell surface.

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